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SOURCE As indicated

DATA ON GDR RADIO AND TELEVISION SYSTEM

[Numbers in parentheses refer to appended sources.]

New Radio Transmitter

In May 1951, the Soviets began secretly to dismantle the Berlin broadcast-
 ing station which they had been operating since 1945 at Masuren-Allee in the
 British sector of the city. As quietly as possible the Soviets shipped all the
 technical equipment to East Berlin. By February 1952, the building in the Brit-
 ish sector was empty. The purpose of this transfer was classified by the GDR
 as a Secret/Control matter at the time. However, it is known that in June 1951
 a large transmitter and broadcasting studios were being constructed under the
 code names "Institut fuer Kuehlhausforschung" (Institute for Refrigeration Re-
 search) and "Objekt Hubertus." Keeping the construction of the sender a secret
 was difficult, because the two 240-meter high transmission towers were plainly
 visible. The towers were described as twin transmission towers (Zwillingssender),
 and were erected in the so-called Uhlenhorst between the East Berlin suburbs of
 Koepenick and Mahlsdorf. Stringent security measures were taken, however, dur-
 ing construction of the new broadcasting studios on Maleppa Street, on the site
 of the confiscated plywood factory of Dickerhoff and Wittman, in Berlin-Rummels-
 burg. The area was surrounded by barbed wire, wooden fences, and watch towers,
 guarded by police patrols with dogs.(1)

New Studios

The main building of the broadcasting studios is about 140 meters long and
 five floors high. The main floor houses nine offices and studios. This, plus
 the eight-floor tower on the east side of the building and the continuing ex-
 pansion of the structures, has cost up to now about 50 million DM (East). The
 construction project has been and remains under the supervision of the techni-
 cally unqualified but politically loyal Karl Metz.

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The studios have not yet been completed; however, all equipment and facilities that are on the premises are in operation.

The twin medium-wave transmitter in Uhlenhorst was put in operation on 1 May 1953. It consists of identical halves, which can be used simultaneously (final stage, 4 tubes, RS 566), with a provisional carrier power of 500 kilowatts and a plate voltage of 12 kilovolts. An increase to 600 kilowatts is possible and planned.

Admission to the new studios is severely restricted. The State Radio Committee [hereafter referred to as SRC], issues three different passes on the basis of party loyalty and function. Only bearers of passes with a "T" on it can enter the specially guarded second floor of main building A. Transmission rooms, reception rooms, studios, and control rooms are located on this floor. The first floor houses technical equipment and the remaining floors house the editorial staff, technical management, laboratories, and administration. The east tower, in which the offices of the SRC are located, also contains the quarters of the director, Willi Perk, and the editor in chief, Heinz Geggel. Perk is a member of the Central Committee of the SED (Socialist Unity Party) and is well known because of his journalistic activities at the newspaper Neues Deutschland.

These studios, with their extensive present and planned facilities, are the center of the entire GDR radio system. Since 16 September 1952, all radio stations in the GDR are being supplied with three programs prepared at the Berlin station. Studios in various other large cities make only recordings which they cable to Berlin for further use. (The only large studio existing in the GDR outside of Berlin is located in Leipzig.) This highly centralized system, operated by the SRC under Kurt Heiss, a member of the Central Committee of the SED, enables the government to exert strict control over radio propaganda.(1)

Radio Jamming Efforts

Simultaneously with the construction of the East Berlin radio facilities, preparations were made for an extensive radio cold war aimed at preventing the reception of Western broadcasts in the GDR. As a result of this continuing propaganda and technical offensive, the programs of Western radio stations cannot now be heard on most GDR standard sets on the medium frequency band.(1)

The Soviets have established, under strictest secrecy, a training course in Dresden for radio interference specialists. Radio technicians from all Soviet Bloc countries attend the course. The purpose is to erect a "wave wall" along the Iron Curtain to prevent reception of West European broadcasts. For several months, mobile jamming transmitters have been operating along the GDR border and near East Berlin.

Mobile interference units, supervised by Communist functionaries, also are operating along the Czechoslovak border. Their interference operations are directed mainly toward Southern Germany and particularly toward Munich. According to reliable information, 2,000 mobile and stationary jamming stations are in operation [presumably in Czechoslovakia].

For the most part, medium frequency units operate in the border area. The operation suffers from poorly trained specialists and difficulties in procurement of power equipment. The latter is necessary because the units have to operate in areas where power is not always available. The net of jamming transmitters is particularly heavy along the Bavarian-Bohemian border. The Czechoslovak government has allocated several million crowns to overcome existing shortcomings.
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C-O-N-F-I-D-E-N-T-I-A-LRadio Broadcasting Development since 1951

Since the spring of 1951 the following developments have taken place in the GDR radio system:

The East Berlin Transmitter (Gross-Sender) was constructed. Its two antennas can be so tuned that the radiation intensity will almost completely prevent the reception of any other station beamed at a single-circuit receiver in any direction within a distance of about 350 kilometers. Heinz Andreas, chief for special projects of the Main Administration for Radio Communications of the GDR Ministry of Postal Affairs and Telecommunications, was responsible for the addition of a reflector antenna with the result that north of Berlin no other transmitter can be clearly received even with good receivers.

During 1953, the weak 20-kilowatt medium-frequency stations Schwerin, located in Woebbelein near Ludwigslust, and Dresden, located in Wilsdruff, were strengthened to 300-kilowatt stations, designated as SM 1 and SM 4. A new station, SM 3, with a similar capacity was constructed in Brehm near Burg. Scheduled date of completion for this station was December 1953. The technical facilities of such a twin-half transmission installation cost about 10 million DM. Its capacity can easily be doubled, as was done in Berlin. This doubling of the station's performance is planned.

The weak senders in Leipzig-Holzhausen, Erfurt, Plauen, and Halle (Bernburg), for the most part 20-kilowatt Lorenz Standard Transmitters, were strengthened by the addition of a 20-kilowatt pre-amplifier. The performance of these transmitters is also supposedly to be increased. The construction of an auto-oscillating tubular pole is planned for 1954. The transmitters are used as radio transmitters or as interference transmitters, for so-called "Wubbelsendungen" ("wobbled" transmissions), as the need arises. The transmitter at Reichenbach near Goerlitz was expanded to 10 kilowatts.

Radio Jamming Developments since 1951

A medium-frequency half installation without a final amplifier, mounted on over 20 vehicles and equipped to use its own power facilities or the public power network, was delivered to the Ministry of Postal Affairs and Telecommunications by the Koepenick Radio Works in the spring of 1952 as transmitter SO 1. This transmitter was to be used, reportedly, only in case of emergency. Actually, it was used as an interference transmitter and was stationed at first in Koenigswusterhausen and later in Brehm near Burg. Two additional such transmitters, to cost of 5.5 million DM, had been planned prior to 17 June 1953. This project was temporarily postponed.

Six additional mobile, 5-kilowatt, medium-frequency transmitters were put in operation during 1953. They were used exclusively as interference transmitters. Except for those on the Inselsberg [mountain] near Gotha and in Plauen, which have assumed an almost stationary character, these transmitters change location frequently.

Additional stationary interference transmitters with a capacity of up to 10 kilowatts are located in Wolgast, Angermuende, Friedland in Mecklenburg, Herzberg, Liebenwerda, Bautzen, Bischofswerda, Karl-Marx-Stadt, Zwickau, Koepfelsdorf, and Weimar. The post office, the police, and the Society for Sports and Technology are the operators of these stations. All these transmitters have the job of jamming the reception of medium-frequency broadcasts from RIAS and other Western radio stations such as NWDR, Munich, SWF, Free Europe, and BBC.

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These stationary and mobile stations do not adhere to the Copenhagen frequency plan. They either operate as so-called "Wubbel" transmitters with continuously changing frequencies, in order to cover a greater frequency range, or they constantly send whistling and howling tones on the frequency of the sender which is to be blanketed. Unfortunately, the interference measures have a relatively high degree of success. Listening to a receiver within a radius of 50 kilometers of the jamming station becomes impossible or extremely difficult, depending on the strength of the interfering station.

GDR radio communications activities are also to be increased in the low-frequency range. A transmitter, SL 2, is being built at present in Zehlendorf near Oranienburg. It will at first have a capacity of 150 kilowatts and will be expanded later, through the joining of three separate amplification stages, to 600 kilowatts.

Means have also been developed for passive interference. Superheterodyne receivers, sets with 6 to 8 tubes, that have a transmission output of 50 Watt were developed under the innocuous name "instruments to improve radio reception in poorly covered areas." The instruments transmit interference frequencies in addition to amplifying GDR transmissions carried over the electric power circuit. AC-DC receivers and sets with net-antennas are particularly affected.

Several hundred of these instruments have been set up at the homes of reliable functionaries in all large cities. They resemble outwardly large radio receivers and therefore do not attract much attention. These sets are produced, among others, by the Uhlrichs enterprise in Bernburg, which participated with AT Treptow (Treptow Apparatus Works) in their development. Several thousand of the sets are said to have been ordered.

Development and Production of Transmitters

Since mid-1953, the Radio Works (Geraetewerk) in Berlin-O 112, Neue Bahnhofstrasse, has been working on interference transmitters with a 150-watt performance. These instruments can absorb a Western station, such as RIAS, within the area of a city block or a small city district, and at the same time can transmit a blubber sound, on the same frequency, which interferes with reception even in the immediate vicinity of the Western station. Over 300 of these instruments are to be completed in the near future. Gerhard Schroeder, a loyal Communist, is the high-frequency engineer responsible for the technical development and production of the instrument.

On 1 January 1953, the new people-owned Radio Construction enterprise was organized. It is still located primarily on the grounds of the Koepenick Radio Works. The director of the new plant is Hubert Coenen and the technical director is Johannes Zurawka. In January 1954, this plant was to move to the House of Technology on Friedrichstrasse, in the center of East Berlin. The plant is the central designing office [of the telecommunications industry]; it is responsible, in cooperation with various related enterprises, for strengthening the telecommunications system of the GDR. It also handles projects for the Soviet bloc.

The development work and lately the production work [of the Radio Construction enterprise] concentrated heavily on high-frequency transmitters for radio, telegraphic, and commercial purposes. Particularly well known in this regard are the single and double-band transmitters, Hf A and Hf B, with a carrier power of 50 kilowatt, and a frequency of 3-25 megacycle. Five of these transmitters are to be shipped to the Far East. They can be used for business, diplomatic, or strategic purposes and, in the case of the Hf B transmitter, for radio transmission. One such installation is to be placed in operation shortly as part of the "North" program on the island of Ruegen. Development work on these transmitters is handled by the Ostmann collective. The new plant also manufactures UHF transmitters with a power of 3 to 10 kilowatt for domestic use as well as for export.

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By the end of 1954, the UHF system of Berlin and other large cities in the GDR was to operate with 10 transmitters with a single-carrier power of 10 kilowatt. A prerequisite for the above was the final development of the 10-kilowatt final-phase as well as a sufficient supply of UHF transmitter tubes, to be obtained either by smuggling from the West or by copying the "Telefunken" tubes. At present, UHF installations of lesser power are operating from the Inselsberg, in Leipzig, in Dresden, in Berlin (on the new city hall), and on the Brocken (Harz Mountain). The aim is to compete with the rather clear reception of the West German UHF transmitters Ochsenkopf, Herfurt, Hannover-Hemmingen, and West Berlin.

It is noteworthy that the microwave beam transmission operation has been expanded during the last two years. Stationary as well as mobile installations have been used for this expansion, for which Johannes Gradetzki of the Main Administration for Telecommunications is responsible.

The Television System

Expansion of the television transmitter network has also been initiated. The television center in Berlin-Adlershof is subordinate to the SRC and is headed by Probst (fnu), an SED member. It began operating in early 1953 via the East Berlin city hall transmitter, which is connected with Berlin-Adlershof by a microwave line. Before the beginning of the foreign ministers' conference in Berlin, a 10-kilowatt television transmitter also was erected on the Mueggelberge [hill range southeast of Berlin]. This 10-kilowatt transmitter is connected with the television center by a microwave beam. Eventually, this transmitter is to replace the city hall installation. During the 1953 Fall Fair in Leipzig, a transmitter was also put into operation there. Leipzig has also had a television studio since November 1953 but to date it has contributed only films to the GDR program. Since November 1953, television transmitters have been operating in Schwerin and Dresden. Like the Leipzig transmitter, they are connected with Berlin by a microwave beam.(1)

The first experimental telecasts were made from Berlin over 99.9 megacycles and 105.4 megacycles in 1952. The Leipzig television transmitter was put into operation using the 59.25-megacycle wave length for the picture and 65.75-megacycle wave length for the sound. The Mueggelberge transmitter telecasts over a frequency of 41.75 megacycles and 48.25 megacycle for picture and sound, respectively. Dresden operates on 145.25 megacycles for picture and 151.75 megacycles for sound. By the end of 1954, additional transmitters were to be erected on the Brocken, on the Inselsberg, in the vicinity of Stollberg, and in Marlow, Mecklenburg.

As of late 1954, the following situation existed:

Two television transmitters operate in Berlin. The transmitter on the Mueggelberge has the task of transmitting to the flatlands around Berlin up to a radius of 70 kilometers. However, the prerequisites for such an operation are at present nonexistent, because of disturbance created by the telecommunications bridge between West Germany and West Berlin. The interference is so strong that it makes reception [of the Mueggelberge TV transmitter] virtually impossible in the area between Oranienburg-Berlin Stadtmitte and Berlin Stadtmitte-Beelitz. Since this communications bridge is deemed illegal, measures are being taken to counteract the disturbance. The city residents will meanwhile be serviced by the transmitter in the City Hall.

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The operating radius of the Leipzig sender is about 45 kilometers. The newly established Dresden sender is said to have a radius of 50 kilometers. The performance of the Dresden sender is to be stepped up in the near future. (For the first time in the GDR, an eight element (butterfly) antenna array is being used.) The government plans to erect a television transmitter near Stollberg to supply the southern mining area of the GDR; when this is done, a relatively wide strip across the south of the GDR will have television coverage.

The transmitter planned for Marlow will service the most important port cities: Wismar, Rostock, and Stralsund.(3)

A former Telefunken engineer, Zeletzki (fnu), is working on a 200-megacycle television transmitter. However, for the time being an essential tube is lacking for this transmitter.

High-quality television cameras and iconoscopes represent particular bottlenecks in the television system. Iconoscopes produced in the GDR last only about 200 hours.(1)

Additional difficulties of a technical and economic nature and a shortage of trained personnel must be overcome before the entire area of the GDR will be blanketed with television service.(3)

SOURCES

1. Cologne, SBZ Archiv, Vol V, No 6, 1954 (Article by Wilhelm Hansen)
2. Munich, Sudetendeutsche Zeitung, 9 Oct 54
3. [East] Berlin Radio und Fernsehen, Vol III, No 7, 1954 (Article by Gradecki)

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